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The EUPPBench postprocessing benchmark dataset

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Statistical postprocessing of forecasts produced by numerical weather prediction systems is an important part of modern weather forecasting systems.
Since the beginning of modern data science, numerous postprocessing methods have been proposed, and one of the questions that frequently arises is the relative performance of the methods for a given specific task.
However, a comprehensive, community-driven comparison of their relative performance is yet to be established. One of the main reasons for this lack is the difficulty of constructing a common comprehensive dataset that can be used to perform such intercomparison.
Here we introduce the first version of the EUPPBench, a dataset of time-aligned medium-range forecasts and observations over Central Europe, with the aim to facilitate and standardize the intercomparison of postprocessing methods. This dataset is publicly available [1], includes station and gridded data based on the ECMWF model forecasts [2]. The initial dataset is the basis of an ongoing project to establish a benchmarking platform for postprocessing of medium-range weather forecasts. We showcase a first benchmark of several methods for the adjustment of near-surface temperature forecasts and outline the future plans for the benchmark project activities.

[1] https://github.com/EUPP-benchmark/climetlab-eumetnet-postprocessing-benchmark

[2] Demaeyer, J., Bhend, J., Lerch, S., Primo, C., Van Schaeybroeck, B., Atencia, A., Ben Bouallègue, Z., Chen, J., Dabernig, M., Evans, G., Faganeli Pucer, J., Hooper, B., Horat, N., Jobst, D., Merše, J., Mlakar, P., Möller, A., Mestre, O., Taillardat, M., and Vannitsem, S.: The EUPPBench postprocessing benchmark dataset v1.0, Earth Syst. Sci. Data Discuss. [preprint], https://doi.org/10.5194/essd-2022-465, in review, 2023.